



# Middlesex University Research Repository

An open access repository of  
Middlesex University research

<http://eprints.mdx.ac.uk>

James, Philip and Walters, David (2011) What motivates employers to establish preventive arrangements? An examination of the case of supply chains. *Safety Science*, 49 (7). pp. 988-994. ISSN 0925-7535

<http://dx.doi.org/10.1016/j.ssci.2010.12.004>

Published Version

Available from Middlesex University's Research Repository at  
<http://eprints.mdx.ac.uk/14330/>

## Copyright:

Middlesex University Research Repository makes the University's research available electronically.

Copyright and moral rights to this thesis/research project are retained by the author and/or other copyright owners. The work is supplied on the understanding that any use for commercial gain is strictly forbidden. A copy may be downloaded for personal, non-commercial, research or study without prior permission and without charge. Any use of the thesis/research project for private study or research must be properly acknowledged with reference to the work's full bibliographic details.

This thesis/research project may not be reproduced in any format or medium, or extensive quotations taken from it, or its content changed in any way, without first obtaining permission in writing from the copyright holder(s).

If you believe that any material held in the repository infringes copyright law, please contact the Repository Team at Middlesex University via the following email address:

[eprints@mdx.ac.uk](mailto:eprints@mdx.ac.uk)

The item will be removed from the repository while any claim is being investigated.



# What motivates employers to establish preventive management arrangements within supply chains?

David Walters<sup>a,\*</sup>, Phil James<sup>b</sup>

<sup>a</sup> Cardiff Work Environment Research Centre, 59 Park Place, Cardiff CF103WT, United Kingdom

<sup>b</sup> Oxford Brookes University, Business School, Wheatley Campus, Wheatley, Oxford, OX333

## ARTICLE INFO

### Article history:

Available online 21 January 2011

### Keywords:

Supply chains  
Health and safety management systems  
Regulatory policy

## ABSTRACT

This paper examines existing evidence as to the factors that prompt organisations to utilise supply chains to influence how health and safety is managed within them, with a view to shedding light on how far it serves to confirm or challenge the view that in general employers are unlikely to voluntarily pursue preventive management initiatives in the absence of external regulatory pressures. The analysis reveals a range of initiatives undertaken to utilise supply chains to support improvements in health and safety management, both at the level of individual organisations and via trade and industry bodies. It also, however, indicates that while supply chains can be used to improve how health and safety is managed within them, only in relatively narrowly defined circumstances will market-based business motivations alone serve to encourage the utilisation of this potential. It is further concluded that if policy-makers wish to see supply chains used more widely to improve standards of health and safety standards, then they need to do more than merely encourage voluntary action in this regard.

© 2010 Elsevier Ltd. All rights reserved.

## 1. Introduction

Over the last two decades something of a consensus has emerged among practitioners and policy makers internationally that the adoption of comprehensive and systematic health and safety management systems is a necessary pre-condition to the establishment of effective and adequate arrangements for the protection of workers (see for example, HSE, 1997). Critical analysis, however, indicates that this prescription confronts a number of challenges both in relation to the adoption and subsequent operationalisation of such systems (Frick et al., 2000; Gallagher et al., 2003).

It has been noted that it cannot simply be assumed that organisations are willing to invest the time and effort to design, or purchase, health and safety management systems. Or to put it another way, that employers possess the motivation to act in this way. Meanwhile, the implementation of such systems has been found to confront a number of potentially important barriers. These barriers encompass, among other things, conflicting organisational priorities, such as those arising from cost and production pressures (Dawson et al., 1988; Nichols and Tucker, 2000), the difficulties of effectively embedding their requirements culturally and operationally in the work routines and attitudes of managers and those they manage (Frick and Wren, 2000), and the problems associated with

the establishment of mechanisms of worker 'voice' that act to provide the levels of workforce involvement that are typically viewed as central to their successful operation (Walters and Nichols, 2007).

At the same time, these concerns and reservations can be seen to exist alongside two related strands of wider debates about how the issue of health and safety at work can best be regulated. First, the issue of what degree of reliance should be placed respectively on 'prescriptive', 'goal orientated' and 'process (or system) based' legal requirements (Gunningham, 2007). Secondly, the balance that should be struck between encouraging compliance with such requirements through exhortation, via, for example, publicity campaigns and the publication of official guidance, and the carrying out of inspections by regulatory inspectors armed with enforcement powers (Davis, 2004; James and Walters, 2004; Tombs, 2005).

Notwithstanding these debates, however, since the 1970s regulatory policy internationally has been marked by a move away from the use of prescriptive legal standards and towards the placing of greater reliance on goal and process based ones (Gunningham and Johnstone, 1999). It has further been marked by a greater emphasis on encouraging 'voluntary compliance'.

Both of these trends have been the subject of a range of criticisms. One important line of such criticism has focussed on the evidence referred to above relating to the problems that may surround the adoption and effective implementation of health and safety management systems – given that process type standards effectively require, albeit with varying degrees of explicitness, the use of such systems. Evidence which critics argue serves to highlight the problematic nature of the downgrading of

\* Corresponding author. Tel.: +44 2920870013.

E-mail address: [waltersD@cf.ac.uk](mailto:waltersD@cf.ac.uk) (D. Walters).

the role of 'external monitoring' via inspectors of compliance with process based requirements.

This last argument effectively forms the conceptual point of departure for this paper. More specifically, the paper uses existing evidence shedding light on the factors that prompt organisations to utilise supply chains, in their capacity as the 'purchasers' or 'suppliers' of goods and services, to influence how health and safety is managed within them, to explore how far it confirms or challenges the view that in general employers are unlikely to voluntarily pursue preventive management initiatives in the absence of external regulatory pressures. In doing so, it draws on a recent review of the international literature, shedding light on the influence of supply chains on health and safety that was undertaken by the authors with funding from the Institution of Occupational Safety and Health (IOSH) (Walters and James, 2009).

It is argued that the issue of supply chain utilisation provides, for both positive and negative reasons, a useful lens through which to explore the factors that motivate organisations to adopt preventive health and safety arrangements. Thus, on the negative side, a range of studies demonstrate that they often act to generate 'indirect' adverse effects (Quinlan et al., 2001; Quinlan and Bohle, 2008). A case in point being an Australian investigation of the experiences of those working under sub-contract/outsourcing arrangements in four sectors, child care, hospitality, transport and building which found that these arrangements were associated with increased economic competition, as well as work disorganisation, regulatory failure and a divided workforce, and led the researchers to conclude that in '*any organisation where outsourcing has become common, OHS standards deteriorate...*' (Mayhew et al., 1996). Meanwhile, on the positive side, such evidence relating to how supply chain relationships can detrimentally impact on health and safety standards, somewhat paradoxically also points to the existence of a potential for them to be used to enhance, rather than undermine, health and safety standards within supplier (and purchaser) organisations. For it also suggests that scope exists for powerful supply chain actors to use the market power at their disposal to improve such management. For example, by laying down requirements as to how it is undertaken and taking action to monitor and enforce compliance with these requirements.

The paper commences with a brief review of the current British legal and policy context relating to the management of health and safety within supply chains in order to reinforce the points made above concerning the nature of current regulatory approaches towards occupational health and safety and to highlight their relevance to the issue of supply chain management. It then details, also briefly, the methodology of the literature review carried out on behalf of IOSH before moving onto consider what its findings tell us about current attempts by employing organisations, either individually or collectively via trade and industry bodies, to influence the management of health and safety within supply chains. Against the background of these findings, attention then turns to examine the factors that existing evidence suggests affect whether organisations, either individually or collectively, are motivated to exert such an influence. Finally, a concluding discussion considers, in the light of this evidence, how far it is correct to argue that business motivations alone are sufficient to prompt organisations, either individually or collectively, to utilise supply chains as a channel for positively influencing how health and safety is managed within them.

## 2. The British legal and policy context

The current legal framework relating to health and safety at work in Britain does not impose any detailed legal framework relating to the management of supply chains in general – although it does so in respect of the construction sector under the Construction

Design and Management Regulations. Instead, by virtue of Section 3 of the Health and Safety at Work Act 1974, a general duty is imposed on duty-holders to conduct their undertakings in such a way as to ensure, so far as reasonably practicably, that persons not in their employment are not exposed to risks to their health and safety.

How far this requirement of Section 3 serves to, albeit implicitly, impose supply chain obligations on organisations in respect of supplier ones remains uncertain. An earlier analysis undertaken by the present authors in conjunction with colleagues, for example, highlighted that it clearly does to some extent, but that uncertainty surrounds how far it extends to apply to 'off-site' outsourced work (James et al., 2007). In addition, this analysis further highlighted that a similar uncertainty surrounds whether, where the duty does apply, it extends to (a) afford protection against the adverse occupational health and safety effects which can stem from an organisation squeezing the prices paid to small companies with whom it is contracting to the point where their ability to invest in health and safety measures is significantly restricted and (b) encompass situations where, for example, a major retailer contracts production out to a manufacturer in the knowledge that it will in turn make use of homeworkers working in inadequate health and safety environments.

Nevertheless, notwithstanding this backcloth of legal uncertainty, at the policy level both government and the Health and Safety Executive have drawn attention to the positive role that supply chain management could play in improving standards of health and safety in the British economy, and actively encouraged organisations to take it more seriously. This encouragement has, though, been pursued via voluntary exhortation rather than legislative action. For example, in the 'flagship' Health and Safety Executive guidance on health and safety management it is argued that organisations would want to improve their occupational safety and health management systems as a consequence of pressure from suppliers or customers, and that accidents and ill health disrupt delivery in supply chains and therefore harm profitability (HSE, 1997). Similarly, a Health and Safety Commission source suggests that good health and safety standards in the supply chain are important because they ensure quality, value, competence and reputation, and claims that they are in the interests of all the organisations involved in supply chain relationships (HSC, 2007). Moreover, an action point in an earlier joint government – HSC health and safety strategy document (DETR/HSC 2000) that committed the HSC to advising Ministers on '*how the principles of good management promoted by the Construction (Design and Management) Regulations approach can be encouraged in other key sectors*,' ultimately led to a decision on the latter's part that further use of the law to regulate contractual chains was unnecessary (James and Walters, 2004).

## 3. A few words on methodology

The vast majority of supply chains are clearly not centrally concerned with the issue of workplace health and safety given that they owe their existence to the demands that buyers have for goods and services. From outset of the IOSH study it was therefore recognised that the way in which supply chains impact on health and safety management and performance within them, and the potential that exists to use them to enhance such management and performance, cannot sensibly be analysed in isolation from an understanding of their wider nature and dynamics. As a result, it was designed to encompass the following two elements:

- a wide-ranging review of the international research literature on the economic, social and regulatory relations of supply; and

- a parallel review of literature shedding more direct light on the way in which supply chains act to worsen or improve health and safety management, and the ways in which they have, to date, been utilised to support effective management of health and safety within them.

Three methods were utilised to identify relevant literature. Firstly, searches of appropriate databases. Secondly, follow-up of potentially relevant references derived from these sources. Thirdly, the identification and inspection of relevant 'grey' sources of literature.

For database searches, we used conventional approaches to conducting a systematic search of on-line data bases in the social and public health sciences for the period 1980–2007. A number of different databases from the larger electronic systems were searched. They included Business Source Complete, BIDS International Bibliography of Social Sciences, PsychINFO, Emerald on the Web, ISI Web of Science, Pub Med and Applied Social Sciences Index and Abstracts. In addition, the EU Health and Safety Agency, ILO, HSE and NIOSH websites were also searched, especially to identify 'grey' literature. Websites of international organisations involved in promoting fair labour standards were a further source of 'grey literature' including case studies, monitoring reports, opinion leaders' commentary and company policies.

In the case of the wider literature on supply chains, searches were undertaken using the search terms of 'supply chains', 'subcontracting' and 'outsourcing'. In the case of literature focused on health and safety aspects, these terms were also used but supplemented by the attachment to them of the additional phrases of: 'occupational health', 'health', 'industrial injury', 'injury', 'occupational safety' and 'safety'. The searches were restricted to articles published in English, although some follow-up led to the inclusion of occasional material in other languages.

These terms generated a substantial number of hits, which were greatly reduced when the search terms were used in combination. Following a first stage reading of the title and abstract, of the sources identified with the above combinations, material deemed to be relevant was scrutinised in its entirety, with relevance in this context being determined primarily by whether a publication was (a) empirically based and (b) shed light on how supply chain relations impacted on the internal management processes of suppliers/purchasers and/or the working conditions of workers within them. Cited references from this material that appeared similarly relevant and falling within the same time period were then subsequently followed up. Finally, to ensure saturation of the material encountered, the search was supplemented by retrieving and checking 'related articles' in the data bases. The 'grey sources' of literature were analysed adopting essentially the same approach.

It needs to be stressed, that in adopting this approach to the literature we were not undertaking a systematic review of the wider business research literature on supply chains. Rather, we were attempting to gain from it an appreciation of current thinking regarding the different forms that supply chain relationships can take, and the key factors, and related dynamics, that act to shape them. Our rationale for this approach being that such an appreciation would enable a better understanding to be gained of how supply chains influence health and safety, as well as the motivators for managing their impact in this respect, than could be obtained by concentrating solely on OHS focussed literature.

#### 4. Attempts to influence supply chain health and safety

From the literature reviewed, it emerged that attempts to influence health and safety within supply chains took three main forms. First, the utilisation by 'purchasers' of procurement strategies un-

der which health and safety standards are used as a basis for selecting contractors and the extension of these in some cases to the imposition on those selected of requirements relating to the general management of health and safety, including in relation to the carrying out of risk assessments and communication within multi-contractor/subcontractor work sites. Secondly, industry level certification schemes aimed at ensuring the competencies of contracting organisations and those working for them. Thirdly, 'product-related initiatives' undertaken by trade/industry bodies, as well as individual supplier organisations.

##### 4.1. 'Purchaser' procurement strategies

In theory procurement allows the purchasers opportunities to influence improvement in health and safety management among suppliers. Indeed, the UK the regulatory framework provided by the already mentioned CDM Regulations serves to encourage them to exploit these opportunities, as does supporting guidance (*Constructing Excellence*, 2006; OGC, 2004, 2005).

Research on procurement practices in construction, however, suggests that the achievement of such influence may not be entirely successful. For example, findings of a survey by Davis Langdon (2007) on public sector construction procurement showed clients to be familiar with setting contractual requirements on health and safety in the procurement of services but also demonstrated them to be far less engaged with efforts to monitor compliance or undertake post-completion review of such arrangements. It also indicated that the frequently observed late appointment of contractors also meant that they often had little engagement with design decisions that might have OHS implications. In other words, this study suggested that opportunities to monitor and improve supply chain influence were generally being overlooked by public sector clients in the UK construction industry – despite its comparatively tight regulation.

Other evidence suggests that this is not just a problem of the British public sector. For example, in a detailed research study into fatal accidents in the UK construction industry a range of procurement issues were identified that it was believed contributed to their relatively high incidence, as the following quote illustrates:

*The principal area of uncertainty, of concern across all workshops, related to policy level approaches to contracting strategy. Increased outsourcing/contractorisation, etc. means contracting forms and strategies deserve attention, particularly as the workshops indicated there was generally little effective attention to health and safety in contractor selection, within contract terms or as part of contract monitoring. This also explains the absence of strong agreed paths of influence from contracting strategies to specific organisational factors...'* (Bomel, 2003, p. 118)

In contrast, there is some evidence to indicate that procurement approaches used by large construction concerns during major projects have met with some success. For example, during the building of the major land works supporting the land/sea link between Denmark and southern Sweden in the 1990s, evidence showed that initiatives on health and safety requirements in procurement helped to reduce the incidence of occupational accidents (EU OSHA, 2000). In a similar vein, controls on subcontracting adopted by Renault in building a new industrial plant in France in the 1990s were found to have achieved a much improved accident frequency when compared to the French construction industry as a whole (EU OSHA, 2000, pp. 89–94), and to have also led to an impressive safety performance during the construction of Heathrow Airport's Terminal 5 (Ewing, 2006).

It should be noted, however, that, because of their size, prominence and degree of risk, all of the above mentioned projects were



the subject of close scrutiny from regulatory inspection. In addition, their high profile and the major contractors involved provided opportunities for inspectors, to exert influence in the design, management and execution of the activities involved, not least because of the reputational risks they encompassed. Features which the available evidence suggests helped ensure appropriate leadership and commitment from both clients and contractors as well as increased will and capacity on their part to monitor and audit compliance with OHS management standards, and that mean that the projects concerned should be viewed as exceptional in terms of the context within which they were undertaken.

The research literature more generally on selection issues in the procurement of contractors in construction and key criteria for assessing subcontractors' eligibility for tender invitation and award, and subsequent performance at the construction stage, bears this last point out. For example, while findings from an early study (Hatush and Skitmore, 1997) indicated that the most common criteria considered by procurers during the pre-qualification and bid process were 'those pertaining to financial soundness, technical ability, management capability, and the health and safety performance of contractors' (our italics), most studies show that quality record, contractor experience and company reputation are the most influential criteria for selecting subcontractors at the pre-qualification stage, with tender price exerting the most significant influence in the subcontract award (Jennings and Holt, 1998). Meanwhile, one study on the influence of the CDM regulations on the procurement and management of small building works concluded that they had 'left ambiguities, primarily through specified exclusions to application, through which health and safety responsibilities may be downplayed or even simply disregarded' (Griffith and Phillips, 2001).

Beyond the construction industry, the role of procurement in requiring improved health and safety from suppliers is cited in a number of accounts. For example, included in the range of case studies in a review of good practices published by the European Agency for Safety and Health, is an account of the practices in the main electricity producing and distributing company in Belgium, where health and safety requirements were applied both to the procurement of services (labour) and products (EU OSHA, 2000, pp. 94–99). Practices, it seems, that were aided by the presence of national contractor certification systems in Belgium that enable the company to choose appropriately experienced contractors (see further below).

In a similar vein, two HSE research reports which examined health and safety in supply chains from the perspective of the impact of contractorisation in three sectors, food processing, health services and private events organising (Partnership Sourcing Ltd., 2003) and on client/contractor relationships in six different economic sectors (Partnership Sourcing Ltd., 2006), also found use being made of such strategies. Although, they also highlight that health and safety can be accorded a lower priority than other business considerations in terms of the extent to which it is an issue pursued within procurement. For example, they draw attention to the tight control – including regular audit and inspection – of supplier food hygiene practices by supermarket chains and the absence of similar messages in relation to health and safety, thus echoing more in-depth research into food retail supply chains (see James and Lloyd, 2008).

#### 4.2. Product related initiatives

A number of examples were identified where trade, or industry, bodies, as well as individual supplier organisations, had undertaken product-related initiatives' to support the better management of health and safety.

One concerned the hire tool trade in construction. Here under the stimulus of regulatory requirements and the threat of litigation, larger tool hire companies have begun to emphasise the safety benefits of their equipment as a marketing strategy. The European hire tool trade association (HAE) has, for example, developed a standard for health and safety and customer service, as well as offering a range of training in conjunction with some of the larger hire firms, that is aimed at supporting the safe use of equipment by construction companies (Ponting, 2008).

Another example is provided by the Supply Association for the Painting Trade in the Lübeck area (*Einkaufsgenossenschaft der Maler zu Lübeck eG – MALEG*) in the Federal State of Schleswig–Holstein in Germany, a wholesale association for enterprises in the painting trade with about 8000 products on offer, about 3100 of which are hazardous substances. In order to support its members in their compliance with the obligations under the Hazardous Substances Ordinance, MALEG set up a specific management system, (*Maleg-Gefahrstoff-Management – MGM*) for users of paint products. In addition to the obligatory safety data sheets, model work instructions are automatically provided for products for which they are available and the compilation of an inventory of hazardous substances is offered to individual enterprises. Based on the inventory, enterprises can also receive personal advice from the association on the replacement of hazardous products by less hazardous ones (MALEG, 2004).

Yet a third is provided by the use of the British Chemical Industry Association of supply chains to promote its Responsible Care and Product Stewardship programmes relating to the sound management of the safety, health and environmental effects of products. There has been some limited evaluation of these programmes, which has suggested they are successful within the industry itself, but that there remains uncertainty concerning their reach, for example, to users outside the tight relationships within the industry (Walters, 2008, p. 143).

Finally, a good example of similar action at the individual supplier level is the support in Germany VW-Audi offers for the management of the hazardous substances it supplies to about 2600 contractual car-dealers and garages, each with an average of 10 employees. About 2500 different chemical products are available under the VW-Audi label, the use of which is prescribed by VW-Audi. For those products classified as hazardous or which contain hazardous ingredients, VW-Audi checks that no less hazardous alternatives are available, so users are relieved of the obligation to check for substitutes. Furthermore, product- or substance-related model work instructions are provided which have to be completed by the garages themselves in agreement with the details of the tasks for which the products are used and with the specific situation found on the premises (BMA, 2002, p. 14; Sul, 2004 in Walters (2008)). Test kits for the measurement of the air concentration of hazardous substances are also available from VW-Audi, as is advice on the construction of garages with regard to fire protection and environmental obligations. While there is no published evaluation of the impact of this support, observations suggest dealers and garages rely on it (Sul, 2005 in Walters (2008)). A reason given for this dependency on the scheme is that the dealers and garages are obliged to comply with the quality management system of the company and this compliance is checked during annual audits.

#### 4.3. Certification schemes

A number of examples were also found of industry based systems relating to the certification of both the organisational and individual health and safety competencies of contractors.

In Belgium for example, against the background of the law requiring companies to use contractors that comply with occupational health and safety laws, two major systems for the certifica-

tion of contractors have been implemented, the *Veiligheids Checklist Aannemers* (VCA) – a list derived from that originally developed for subcontractors in high risk work in the petrochemical industry in the Netherlands and the more general Belgian Safety Criteria for contractors (*Besacc*) system developed by the Confederation of Belgian Industry.

A range of such certification schemes also exist in the construction industry in the United Kingdom against the backcloth of requirements in the CDM regulations relating to the competency of contractors, designers and project co-ordinators. However, in a report centred on aiding the development of guidelines on these regulations, *Carpenter (2006)* provides details of no less than a dozen schemes that are available for assuring individual competencies and more than twice this number for assuring organisational OHS competence. A situation that, unsurprisingly, led him to recommend a need for standardisation between the requirements of these different schemes – a recommendation subsequently echoed by the government's *Better Regulation Unit (2008)* and a subsequent report of a government commissioned inquiry into fatal accidents in the industry (*Donaghey, 2009*). Such duplication and resulting confusion among purchasers and suppliers concerning their worth, may help to explain their limited success in comparison with the continental European scheme. Notwithstanding this, however, the UK system remains extensively fractured and lacks the standardisation recommended.

Another such European certification scheme is the *Sicherheits Zertifikat Kontraktoren* (SCC Certificate), introduced some 15 years ago and now used in several EU countries. It provides a third-party certification system intended to evaluate and enhance contractor performance on safety and health and environmental protection by putting in place agreed-upon, industry-proven best practices, specified in a checklist, and to demonstrate that a contractor works in compliance with fundamental statutory requirements in the national safety, health and environmental legislation. Moreover, significant improvement has been reported as a result of its development (*EU OSHA, 2002*), although a detailed evaluation of the reasons for this success has, until this time, been lacking.

## 5. Sources of influence on supply chain health and safety management

The findings reported above have indicated that a range of different initiatives are undertaken by individual organisations, as well as sectoral trade and industry bodies, to influence health and safety management within supply chains. In a few cases, they have also highlighted the existence of evidence that such initiatives can yield beneficial outcomes in terms of improving aspects of the way in which health and safety is managed within such chains.

This said, the review has further served to indicate that there is, in general, a lack of systematic evidence which sheds light on the factors which prompt such initiatives to be undertaken, and influence their impact. Against the backcloth of the wide range of studies which have pointed to the way in which the internal dynamics of supply chains can act to adversely affect worker health and safety, this lack of evidence would seem to be problematic, not least because it is simply not possible to judge under what circumstances, and to what degree, initiatives of this type will be adopted voluntarily by either individual organisations occupying key positions within supply chains or on a 'collective basis' by industry and trade bodies. A lack of understanding that, in turn, means that we lack the detailed insights needed to develop effective strategies aimed at generating the more extensive use of supply chains in this way as a means of both combating the adverse health and safety consequences they can give rise to and compensating for the way

in which the outsourcing of previous internal activities to them can act to undermine 'the reach' of internally focussed health and safety management systems that are most commonly found in larger organisations.

The foregoing analysis does, however, serve, albeit tentatively, to point to several factors that would seem to exert an important influence over the willingness of individual organisations, as well as trade and industry bodies, to attempt to utilise supply chains to positive influence health and safety standards within them. One, arising from the successful large-scale construction projects mentioned, as has already been alluded to, is the presence of substantial reputational risks and the existence of surrounding regulatory pressures that are linked to a project's 'visibility'. A second, illustrated by the apparent success of the German VW-Audi scheme relating to the management of hazardous substances by car-dealers and garages, is the presence of close and dependent supply relationships. Finally, a third, as demonstrated by, for example, the trade/industry certification schemes mentioned, is the role of legal requirements and liabilities more generally in prompting action.

In combination, then, these apparent sources of influence suggest that pure, market-based, business motivations are far from being the sole, or even dominant, driver of the various initiatives identified above. Indeed, given the observation about the way that supermarkets prioritise food hygiene issues in relation to their food suppliers, there would seem reasonable grounds for arguing that only rarely will occupational health and safety on its own constitute grounds for meaningful supply chain action. A view that can be seen to receive further support from both the wider business literature on outsourcing and that relating to public/private regulatory mixes, such as exemplified by attempts to influence the operation of global supply chains.

The first of these literatures, for example, indicates that buyers are more likely to intervene to influence the internal operations of suppliers where the good and services supplied are of a complex nature, relatively few suppliers are available and the goods and services concerned are of critical business importance (*Cousins and Lawson, 2007; Heide and John, 1990; Marchington and Vincent, 2004*). In other words, it suggests, by implication, that (voluntary) attempts by them to directly influence health and safety are likely to be relatively uncommon, being mainly restricted to situations where it is seen as an issue encompassing 'significant business risk'.

The second of these literatures, meanwhile, highlights that it is the involvement of a range of actors, structures and procedures beyond the immediate supply relationship that acts to prompt and sustain the desired effects concerning improved working conditions for vulnerable workers at the end of global supply chains. For example, in the global food, garment and footwear industries, the business case for supply chain controls to improve health and safety conditions in the supplying farms and factories of the southern hemisphere, is not made directly from the improvement of the health of the workers concerned – or even from the possible increased efficiency and quality achieved by this improvement. Rather, it is made from the potential of improvement in the public image of the client and the consequent selling potential of its 'labels' in northern hemisphere markets, which are otherwise threatened by bad publicity associated with exposure of poor conditions of labour in its supply chain. That the same public image considerations potentially apply in domestic supply chains was illustrated recently, for example, by front page headline coverage of sweatshop labour conditions and low wages experienced by immigrant workers manufacturing fashion garments sold by a prominent UK high street retailer (*Observer, 2009*).

More specifically, such threats to business and the freedom of capital emerge from the concerted efforts of social interest groups,

regulators, media attention and so on (Rodriguez-Garavito, 2003). They are further sustained by alignments of mutual interests among trades unions, non-governmental organisations, labour inspectors, consumer and community action groups and others seeking to represent the interests of exploited workers, in negotiation and consultation with representatives of the companies at the heads of the supply chains concerned.

The 'ethical trading partnerships' that emerge from such relations are, in turn, supported by various international bodies such as the ILO, WHO, donor agencies and NGOs and also enjoy a degree of arms-length approval from associated governmental bodies. The results are seen, for example, in the more than 1000 corporate codes detailing labour conditions for corporate suppliers estimated in a World Bank (2000) survey and the 98% of the world's largest 500 companies that are reported to have a code of ethics or similar (Wilson and Gribben, 2000). They are also found in the flagship partnerships such as that between multi-national car manufacturer, Volkswagen AG, the ILO and the German aid agency GTZ aimed at the development of an international guideline for OSH and supply chain management (Frommann, 2008; Kristjansdottir, 2007).

In short, it would therefore appear that attempts within industry to utilise supply chains to positively influence the employment conditions of workers have, for the most part, not emerged spontaneously from a narrow consideration of business interests and objectives. Instead, such attempts have been intimately connected to the way in which perceptions of these interests and objectives have been re-shaped by a range of external pressures, or drivers, which serve to increase the business risks associated with the operation of supply chains in both domestic and international contexts. Pressures that have arisen not just as a result of legislative requirements and the actions of regulatory agencies, although these have played a role, but also from the activities of other groups and bodies in civil society.

## 6. Conclusions

This paper began by noting that notwithstanding the emergence of a substantial degree of consensus among practitioners and policy makers internationally that the adoption of comprehensive and systematic health and safety management is a necessary pre-condition to the establishment of effective and adequate arrangements for the protection of workers, this view has, for a number of reasons, not gone unchallenged. In particular, for present purposes, it was noted that doubts have been raised both with regard to the willingness of employers to voluntarily invest in such systems or to effectively operationalise them in the face of conflicting business priorities.

Against the background of wider debates about how health and safety is best regulated, and more specifically concerns about the trend towards downgrading the role of 'external monitoring by inspectors' and placing greater reliance on 'voluntary compliance', the paper has consequently had two central purposes. First, to use secondary evidence to shed light on the factors which prompt organisations, either individually or collectively, to use supply chains to influence how health and safety is managed within them. Secondly, to use this evidence to consider how far it confirms the concerns that have been expressed regarding both employer willingness to pursue preventive health and safety management arrangements entirely voluntarily, and the trend in regulatory policy internationally to place greater reliance on advice and persuasion to encourage such voluntary preventive action on their part.

The analysis provided has revealed that a range of initiatives have been undertaken to utilise supply chains to support improvements in health and safety management, both at the level of indi-

vidual organisations and via trade and industry bodies. In addition, while acknowledging that the impact of many of these initiatives has not been evaluated, it also indicates that there is a clear potential for them to generate positive preventive benefits.

This said, the evidence reviewed further indicates that only in relatively narrowly defined circumstances will market-based business motivations alone serve to encourage the utilisation of this potential. Indeed, it points to the fact that many of the supply initiatives reviewed were prompted by a range of non-market external pressures, such as the presence of relevant legislative requirements and liabilities, meaningful scrutiny from inspection agencies and, as the examples provided relating to global supply chain developments demonstrate, action from civil society groups and agencies.

If policy makers believe, as they appear to do, that supply chains do form a useful avenue through which to generate improved standards of health and safety protection for, often highly vulnerable, workers, then it would seem that the mere encouragement of voluntary action in this regard is, at the general level, unlikely to be sufficient. Rather, they need to consider how best to develop regulatory strategies that will act to stimulate appropriate responses on the part of both individual organisations occupying important and influential positions within such chains and relevant trade and industry bodies. Moreover, they further need to address how best to utilise the cooperation of constellations of interests, such as those of the actors in civil society lying outside the narrow business interests represented within the supply relations themselves.

It is beyond the scope of this paper to consider in detail how such strategies can best be designed. On the basis of the analysis provided, it is clear, however, that 'arms-length' educational and persuasion strategies are unlikely on their own to achieve significant success and hence that stronger frameworks of legal obligations are required, particularly outside of the construction industry – as has been done, for example, in the trucking and clothing industries in parts of Australia (James et al., 2007). Beyond this, two other general, and related, observations would, at this point, seem worth making. The first of these is that, given the fragmented and dispersed nature of the work undertaken within supply chains, both domestically and internationally, it would seem unlikely that existing state regulatory agencies will possess the capacity to meaningfully monitor of compliance with these new frameworks on their own. The second is that there would consequently seem a strong case in developing such regulatory strategies to explore how the work of such agencies can be supplemented, as has recently been suggested by Weill in a series of papers, by the creation of obligations (and incentives) relating to the establishment of private monitoring systems by those occupying influential positions within supply chains and the opportunity for their further scrutiny by those outside them (Weil, 2008, 2009; Weil and Mallo, 2007).

## References

- Better Regulation Unit, 2008. Improving Outcomes from Health and Safety. <[www.berr.gov.uk/files/file47324.pdf](http://www.berr.gov.uk/files/file47324.pdf)>.
- BMA (Bundesministerium für Arbeit und Sozialordnung) (Ed.), 2002. Neue Ideen gesucht – Hervorragende Lösungen gefunden: 5mal Gefahrstoffschutzpreis. Berlin 2002, 40 p. Electronically available at: <<http://www.baua.de/download/gefahrstoffschutzpreis.pdf>>.
- BOMEL, 2003. Factors and Causes Contributing to Fatal Accidents 1996/97–2000/01, Technical Support. Health and Safety Executive, London (unpublished).
- Carpenter, J., 2006. Developing Guidelines for the Selection of Designers and Contractors under the Construction (Design and Management) Regulations 1994. HSE Research Report 422. HSE Books, Sudbury.
- Constructing Excellence, 2006. Common Minimum Standards: For the Procurement of Works in the Built Environment by Local Authorities in England. Local Government Task Force.
- Cousins, P., Lawson, B., 2007. Sourcing strategy, supplier relationships and firm performance: an empirical investigation of UK organisations. *British Journal of Management* 18, 123–137.

- Davis, C., 2004. Making Companies Safe: What Works? Centre for Corporate Accountability, London.
- Davis Langdon, L.L.P., 2007. Health and Safety in Public Sector Construction Procurement. HSE Books, Sudbury.
- Dawson, S., Willman, P., Bamford, M., Clinton, A., 1988. Safety at Work: The Limits of Self-regulation. Cambridge University Press, Cambridge.
- Donaghey, R., 2009. One Death is too Many: Inquiry into the Underlying Causes of Construction Fatal Accidents. Stationary Office, Cm 7657, London.
- EU OSHA, 2000. Occupational Health and Safety in Marketing and Procurement. Office for Official Publications of the European Communities, Luxembourg. <<http://osha.europa.eu/en/publications/reports/304/view>>.
- EU OSHA, 2002. Recognition Schemes in Occupational Safety and Health. Report No.308. EU OSHA. European Agency for Safety and Health at Work, Bilbao. <[http://osha.europa.eu/publications/reports/308/recognition\\_en.pdf](http://osha.europa.eu/publications/reports/308/recognition_en.pdf)>.
- Ewing, K., 2006. Global Rights in Global Companies: Going for Gold at the UK Olympics. Institute of Employment Rights, London.
- Frick, K., Wren, J., 2000. Reviewing occupational health and safety management—multiple roots, diverse perspectives and ambiguous outcomes. In: Frick, K., Jensen, L., Quinlan, M., Wilthagen, T. (Eds.), Systematic Occupational Health and Safety Management – Perspectives on an International Development. Pergamon, Oxford.
- Frick, K., Jensen, L., Quinlan, M., Wilthagen, T. (Eds.), 2000. Systematic Occupational Health and Safety Management – Perspectives on an International Development. Pergamon, Oxford.
- Frommann, M., 2008. VW/GTZ/ILO Project: Global Compact and Safety and Health Culture – OSH and Supply Chain Management. Assessment of Project Activities July 2004–June 2008. ILO, Geneva.
- Gallagher, C., Underhill, E., Rimmer, M., 2003. Occupational health and safety management systems in Australia: barriers to success. Policy and Practice in Health and Safety 1 (2), 67–81.
- Griffith, A., Phillips, N., 2001. The influence of the Construction (Design and Management) Regulations 1994 upon the procurement and management of small building works. Construction Management and Economics 19, 533–540.
- Gunningham, N., 2007. Designing OHS standards: process, safety case and best practice. Policy and Practice in Health and Safety 5 (2), 3–24.
- Gunningham, N., Johnstone, R., 1999. Regulating Workplace Safety: Systems and Sanctions. Oxford University Press, Oxford.
- Hatush, Z., Skitmore, M., 1997. Criteria for contractor selection. Construction Management and Economics 15 (1), 19–38.
- Heide, J., John, G., 1990. Alliances in industrial purchasing: the determinants of joint action in buyer–supplier relationships. Journal of Marketing Research XXVII, 24–36.
- HSC, 2007. Health and Safety – The Way Ahead. HSC, London.
- HSE, 1997. Guide to Successful Health and Safety Management. second ed.. HSE Books, Sudbury.
- James, S., Lloyd, C., 2008. Too much pressure? Retailer power and occupational health and safety in the food processing industry. Work Employment and Society 22 (4), 1–18.
- James, P., Walters, D., 2004. Health and Safety: Revitalised or Reversed? Institute of Employment Rights, London.
- James, P., Johnstone, R., Quinlan, M., Walters, D., 2007. Regulating supply chains to improve health and safety. Industrial Law Journal 36, 163–187.
- Jennings, P., Holt, G., 1998. Prequalification and multi-criteria selection: a measure of contractors' opinions. Construction Management and Economics 16, 651–660.
- Kristjansdottir, M., 2007. Better Health and Safety for Suppliers: A Partnership Project between Volkswagen, ILO and GTZ. ILO, Geneva, unpublished.
- MALEG (Einkaufsgenossenschaft der Maler zu Lübeck e.V.) (Ed.), 2004. MGM – Maleg-Gefahrstoff-Management. Powerpoint Presentation, Lübeck (unpublished).
- Marchington, M., Vincent, S., 2004. Analysing the influences of institutional, organizational and interpersonal forces in shaping inter-organisational relations. Journal of Management Studies 41 (6), 1029–1056.
- Mayhew, C., Quinlan, M., Bennett, L., 1996. The Effects of Subcontracting/ Outsourcing on Occupational Health and Safety. UNSW Studies in Australian Industrial Relations, No. 38. University of New South Wales, Sydney.
- Nichols, T., Tucker, E., 2000. OHS management systems in the UK and Ontario, Canada: a political economy perspective. In: Frick, K., Jensen, L., Quinlan, M., Wilthagen, T. (Eds.), Systematic Occupational Health and Safety Management – Perspectives on an International Development. Pergamon, Oxford, pp. 285–309.
- Observer, 2009. Primark in Storm Over Conditions at UK Supplier. Fashion Giant Acts after Investigation. Page 1, 11/01/09. <<http://www.guardian.co.uk/business/2009/jan/11/primark-ethical-business-living>> (accessed 17.01.09)
- OGC, 2004. Achieving Excellence in Construction, Procurement Guide 10 – Health and Safety. Office of Government Commerce, London.
- OGC, 2005. Common Minimum Standards: For the Procurement of Built Environments in the Public Sector. Office of Government Commerce, London.
- Partnership Sourcing Ltd., 2003. Contractorisation – Aspects of Health and Safety in the Supply Chain. HSE Books, Sudbury.
- Partnership Sourcing Ltd., 2006. Client/Contractor Relationships in Managing Health and Safety on Projects. HSE Books, Sudbury.
- Ponting, L., 2008. Hire firms face two ways to improve safety and profits. Health and Safety Bulletin 367, 19–24.
- Quinlan, M., Bohle, P., 2008. Under pressure, out of control or home alone? Reviewing research and policy debates on the OHS effects of outsourcing and home-based work. International Journal of Health Services 38 (3), 489–525.
- Quinlan, M., Mayhew, C., Bohle, P., 2001. The global expansion of precarious employment, work disorganisation, and consequences for occupational health: a review of recent research. International Journal of Health Services 31 (2), 335–414.
- Rodriguez-Garavito, C.A., 2003. Global governance and labor rights: codes of conduct and anti-sweatshop struggles in global apparel factories in Mexico and Guatemala. Politics and Society 33 (2), 203–233.
- Tombs, S., 2005. Regulating safety at work: the recovery of an idea. Policy and Practice in Health and Safety 3 (1), 5–16.
- Walters, D., 2008. Within Reach? Managing Chemical Risks in Small Enterprises. Baywood, New York.
- Walters, D., James, P., 2009. Understanding the Role of Supply Chains in Influencing Health and Safety at Work. Institution of Occupational Safety and Health, Leicester.
- Walters, D., Nichols, T., 2007. Worker Representation and Workplace Health and Safety. Palgrave Macmillan, Leicester.
- Weil, D., 2008. A strategic approach to labour inspection. International Labour Review 147 (4), 349–375.
- Weil, D., 2009. Rethinking the regulation of vulnerable work in the USA: a sector based approach. Journal of Industrial Relations 51, 411–430.
- Weil, D., Mallo, C., 2007. Regulating labour standards via supply chains: combining public/private interventions to improve workplace compliance. British Journal of Industrial Relations 45 (4), 791–814.
- Wilson, A., Gribben, C., 2000. Business Responses to Human Rights. Ashridge Centre for Human Rights, Ashridge.
- World Bank, 2000. Company Codes of Conduct and International Standards: An Analytical Comparison. World Bank, Washington, DC.